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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/580,848	05/30/2000	Jeffry Jovan Philyaw	PHLY-25,087	1494
25883	7590	02/09/2004	EXAMINER	
HOWISON & ARNOTT, L.L.P			PAIK, STEVE S	
P.O. BOX 741715			ART UNIT	
DALLAS, TX 75374-1715			PAPER NUMBER	
			2876	
DATE MAILED: 02/09/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/580,848

Applicant(s)

PHILYAW ET AL.

Examiner

Steven S. Paik

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 November 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-69 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-69 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 November 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 10/19/00. 6) ☒ Other: PTO-1449 filed 02/27/01.

DETAILED ACTION

Response to Amendment

1. Receipt is acknowledged of the Pre-Amendment filed October 19, 2000 and the Amendment filed November 22, 2000.

Information Disclosure Statement

2. The information disclosure statement filed October 19, 2000 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each U.S. and foreign patent; each publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered. Foreign patent documents and non-patent documents are either missing date information or legible copies. All U.S. patent documents have been considered and initialed by the Examiner.

Claim Objections

3. Claim 16 is objected to because of the following informalities: it is respectfully suggested to replace the phrase, "the detector unit" in line 1 with -- the discrete detector unit --. Appropriate correction is required.
4. Claims 61-65 are objected to because of the following informalities: the word, "it" in line 9 fails to precisely claim the invention. The examiner respectfully suggests amending the phrase with -- the image of the illuminated bar code --. Dependent claims 62-65 are objected due to their dependency. Appropriate correction is required.
5. Claim 66 is objected to because of the following informalities: the word, "it" in line 3 fails to precisely claim the invention. The examiner respectfully suggests amending the phrase

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with -- the image of the bar code --. Dependent claims 67-69 are objected since the claims are dependent claims of claim 66. Appropriate correction is required.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-7, 14-17, 24, 25, and 47-58, 61-69 are rejected under 35 U.S.C. 102(b) as being anticipated by Swartz et al. (US 5,621,203).

Re claims 1, 2, 14, 16 and 17, Swartz et al. disclose an optical reader (reader 10 in Fig. 1) for reading a symbol (2D barcode symbol 16 or 1D barcode symbol 18) representing information having areas of areas of different light reflectivity (col. 1., ll. 64-67). The reader comprises a radiant energy source (laser diode 84 or laser line generator 60) for generating a radiant energy for illuminating a target region (surface 14 having barcode symbols 16 or 18), a photodetector (col. 5, ll. 3-7) for generating output electrical signals indicative of the radiant energy incident thereon (col. 9, ll. 1-5), an optical system having a projection portion(optical component 64 directs the fixed, static beam 12 from a light source toward the barcode symbols to be read) for directing the radiant energy along a projection path extending from the radiant energy source (LED 84 or laser 60) to the target region (14), a collection portion (such as a lens 66 or lenses shown in Fig. 6A and 6B focuses the collected beam of light onto a 1D charge-coupled device sensor 68 or an optical filter positioned to intercept the reflected informing light before the light reaches the detector) for collecting the radiant energy reflected from a symbol (16 or 18) when

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the symbol occupies the target region (14) and directing the collected radiant energy along a collection path extending from the target region to the photodetector (CCD array; col. 2, ll. 57-65), the collection portion including one pinhole aperture (134) disposed upstream on the collection path from the photodetector without intervening refraction or diffraction, and one magnifying lens disposed upstream on the collection path from the pinhole aperture without intervening refraction or diffraction (col. 9, ll. 28-37), and a decoder (a decode module which is not shown in the reference decodes the signals from the reader representative of the scanned barcode symbols; col. 5, ll. 9-14; 121 in Fig. 5A) for decoding the output electrical signals of the photodetector to provide indication of the information contained in the symbol. The collection portion includes no other refracting or diffracting elements disposed along the collection path (see Fig. 3).

Re claims 3 and 4, Swartz et al. further disclose a (a light-transmissive window 118 at the front end of the reader 10; col. 9, ll. 1-5) protective window disposed upstream on the collection path from the magnifying lens, the protective window having parallel surfaces disposed perpendicular to the collection path (Fig. 1; col. 5, ll. 3-8). Fig. 5A discloses the collection portion (120) includes no other elements disposed along the collection path.

Re claims 5, 54, and 68, Swartz et al. disclose the reader as recited in rejected claims 1, 53 and 67 stated above respectively, wherein the magnifying lens is a double-convex lens (130).

Re claims 6, 55, and 69, Swartz et al. disclose the reader as recited in rejected claims 1, 53 and 67 stated above respectively, wherein the magnifying lens is a plano-convex lens (140).

Re claim 7, Swartz et al. disclose the reader as recited in rejected claim 1 stated above, the collection portion provides to the photodetector a dimensionally magnified image of the

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symbol occupying the target region (the lenses in the Swartz et al. reference inherently have magnification factors, therefore, they provide a dimensionally magnified image to the photodetector for further processing of the barcode symbols).

Re claim 15, Swartz discloses the reader in accordance with rejected claim 1 stated above, wherein the photodetector (CCD 68) and the pinhole aperture (134 or 142) are packaged together as a discrete detector unit.

Re claim 24, Swartz discloses the reader as recited in rejected claim 1 stated above, wherein the radiant energy source is a light-emitting diode (LED; col. 2, ll. 58-65).

Re claim 25, Swartz discloses the reader as recited in rejected claim 1 stated above, wherein, the decoder provides an output signal which emulates keyboard keystrokes (An electrical cable 26 carries signals from reader 10 to a decode module (not shown) that decodes the signals from the reader representative of the scanned bar code symbols. An external host device (not shown), e.g., a programmable computer, serves as a data store in which data generated by the decode module is stored for subsequent processing. The process emulates the data input using keyboard keystrokes, except it is faster and almost error free.).

Re claim 47, Swartz discloses an optical reader (10) for reading a bar code (16 or 18) comprising:

a radiant energy source (60) for generating a radiant energy, the radiant energy being directed from the radiant energy source to a target region (14) to illuminate a bar code (16 or 18) present in the target region;

a photodetector (68) for generating output electrical signals indicative of the radiant energy incident thereon;

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an optical system (64 or 66 in Fig. 3) having a collection portion (120 in Fig. 5A) for transmitting an image of the illuminated bar code along a collection path extending from the target region to the photodetector (68), the collection portion including a first optical element (aperture 134 or 142) which increases the contrast and decreases the luminance of the image transmitted to the photodetector; and

a decoder (col. 5, ll. 9-14) for decoding the output electrical signals of the photodetector to provide indication of the information contained in the bar code.

Re claims 48 and 50, Swartz discloses the optical reader as recited in rejected claim 47 stated above, wherein the first optical element (aperture) is a passive device.

Re claims 49 and 51, Swartz discloses the optical reader as recited in rejected claim 48 stated above, wherein the first optical element is combined in a discrete package with the photodetector (Fig. 5A; col. 9, ll. 1-37).

Re claims 52 and 53, Swartz discloses the optical reader as recited in rejected claim 47 stated above, wherein the collection portion (120) of the optical system further includes a second optical element (lenses as shown in Fig. 6A and 6B) which dimensionally magnifies the image of the bar code transmitted to the photodetector (121), the first optical element (pinhole aperture) being disposed between the photodetector and the second optical element.

Re claim 56, Swartz discloses the optical reader as recited in rejected claim 47 stated above, further comprising an exterior shell (housing 24) enclosing the other components.

Re claims 57 and 58, Swartz discloses the optical reader as recited in rejected claim 47 stated above, wherein the exterior shell has area displaying advertising indicia (barcode readers

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in the industry for sales transaction commonly includes a logo or brand of a manufacturer of the barcode readers).

Method claim 61 is essentially the same in scope as apparatus claim 47 and is rejected similarly.

Method claim 62 is essentially the same in scope as apparatus claim 48 and is rejected similarly.

Method claim 63 is essentially the same in scope as apparatus claim 49 and is rejected similarly.

Method claim 64 is essentially the same in scope as apparatus claim 50 and is rejected similarly.

Method claim 65 is essentially the same in scope as apparatus claim 51 and is rejected similarly.

Method claims 66 and 67 are essentially the same in scope as apparatus claims 52 and 53 and are rejected similarly.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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9. Claims 8-10 and 18-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swartz et al. (US 5,621,203) as applied to claim 7 above, and further in view of Lipman et al. (US 6,104,845).

Re claims 8-10 and 18-23, Swartz discloses all of the claimed features with the exception of specifically disclosing the magnification ranges and the distance between the photodetector and the pinhole as claimed in the present application.

Lipman discloses an optical scanner comprising, among other things, a light source (LED), a focusing lens (11), a CCD array (4), an analog-to-digital converter, and a CPU. The CCD array includes a single line of 64 pixels having a total length of 8mm. The distance of the record medium (target) from the focusing lens (11) and the distance from the lens (11) to the CCD array (4) are such that the optical magnification is about 1.6; that is, the image projected onto the CCD array is magnified 1.6 times (col. 5, ll. 1-10). As appreciated by an artisan having ordinary skill in the art, the magnification is adjustable by varying the magnification factor of a lens.

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify the magnification factor of a lens and the distance between the photodetector and the pinhole to design an optical reading system for reading a mark or symbol with an improved accuracy, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

10. Claims 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swartz et al. (US 5,621,203) in view of Eastman et al. (US 5,786,585).

Re claims 11-13, Swartz discloses all of the claimed features including a CCD as a photodetector. Although it is well known in the art that a photodiode or an array of photodiodes can be used as a photodetector, the reference does not specifically disclose the types of photodetector that can be used in an optical reading device.

Eastman discloses an example of a photodetector. The photodetector may be a phototransistor, or an array of adjacent photodiodes or phototransistors disposed to receive light leaving the end 70 of the substrate plate 65, or a charge coupled device (CCD). A phototransistor, or an array of adjacent photodiodes or phototransistors provides the same fundamental function of receiving reflected light from a previously illuminated target with a symbol and converting the received signals of symbol image to electrical signals for further processing.

Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have selected a phototransistor, or an array of adjacent photodiodes or phototransistors to receive a reflected light beam off of an image as taught by Eastman into the teachings of Swartz for the purpose of designing an optical reader as simple and compact as possible without compromising the performance of reading symbols by selecting a photodetector that meets required specification from a various types of photodetectors.

11. Claims 26-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swartz et al. (US 5,621,203) in view of SeEVERS et al. (US 6,260,023).

Swartz discloses an optical reader including, among other things, a light source, an optical module, a detecting module and a system (such as a programmable computer) to store and process decoded information of an encoded symbol such as a barcode.

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However, Swartz is silent about the specifics of a computer system and its peripherals coupled together to keep a form of a network.

Seevers discloses a transaction processing system having a barcode reader, a transaction terminal (18), a communication port, a computer (20), and a network (66). The transaction terminal is coupled to a communication port (32) using standard connection methods and protocols including serial OCIA, RS232, etc. The network is the Ethernet network architecture. It is obvious to an artisan that other types of network architectures may be used. A decoder decoding barcoded information provides the information to another digital processing unit such as a computer. The computer communicates with a server or other peripheral devices within a network to further process the decoded information.

In view of Seevers teaching, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to further employ a computer and a network using standard connection methods and protocols in addition to the optical reader of Swartz due to the fact that more data can be read and processed to a different peripheral device for the purpose of increasing efficiency within a network. Furthermore, such modification of employing a different connection methods and protocols to the teachings of Swartz would have been an obvious matter of design variation, well within the ordinary skill in the art, and therefore an obvious expedient.

12. Claims 59 and 60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swartz et al. (US 5,621,203) in view of Koizumi et al. (US 5,175,422).

Swartz discloses all the features of the claimed invention with the exception of having an animal like shape and an upper shell having a generally semi-circular cross section and a lower shell having a generally flat cross section.

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Koizumi et al. disclose an optical scanner having an animal like shape and an upper shell generally semi-circular cross section and a lower shell having a generally flat cross section (Fig. 1). The shape and design has advantages over the known scanner in being easier to assemble, using less electrical power, and being smaller due to the fewer parts needed for assembly. Furthermore, the flat lower shell with a roller supports the weight of the scanner and enables the apparatus to roll more easily across a target area.

Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have employed the shape and design of the optical scanner as taught by Koizumi et al. into the teachings of Swartz for the purpose of improving maneuverability of the scanner for increasing the efficiency of reading a symbol on an article.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Roustaei (US 5,354,977) discloses an optical scanning head comprising a light source (LED) and a detecting unit (CCD arrays) having an upper shell with a generally semi-circular cross section; Ikeda (US 5,938,727) discloses a communication system for identifying a desired destination coded with a 2D barcode; Meksavan et al. (US 6,581,838) discloses an optical scanner having a case with a round shape.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven S. Paik whose telephone number is 571-272-2404. The examiner can normally be reached on Mon - Fri (5:30am-2:00pm).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G. Lee can be reached on 571-272-2398. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-1551.

Steven Paik 

Steven S. Paik
Examiner
Art Unit 2876

ssp
January 29, 2004